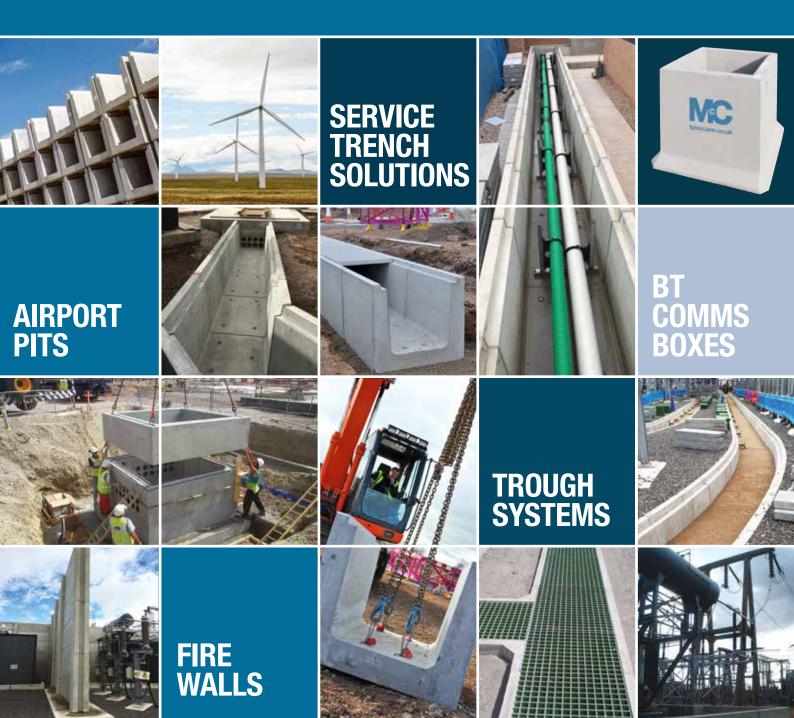


POWER & INFRASTRUCTURE SOLUTIONS

v.2.5





POWER & INFRASTRUCTURE SOLUTIONS

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OUR COMPANY

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our thirteen UK manufacturing facilities, FP McCann offers solutions that include architectural and structural solutions, rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power and agricultural products. FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

OUR COMPREHENSIVE PRECAST CONCRETE BUSINESS EXTENDS TO INCLUDE:

AGRICULTURE I BOX CULVERTS I BUILDING PRODUCTS I CONCRETE ROOF TILES DOCK LEVELLER PITS I DRAINAGE I FENCING I FILTER BED SYSTEMS FLOORING I POWER & INFRASTRUCTURE I PRECAST OFF-SITE BUILDING SOLUTIONS RAIL I SPECIALIST PRECAST I TANKS & CHAMBERS I TUNNELS & SHAFTS I WALLING

Modern manufacturing plants at Alnwick (Northumberland), Armagh (Northern Ireland), Byley (Cheshire), Cadeby (Leicestershire), Ellistown (Leicestershire), Grantham (Lincolnshire), Lisnaskea (Northern Ireland), Littleport (Cambridgeshire), Lydney (Gloucestershire), Magherafelt (Northern Ireland), Uddingston (Lanarkshire) and Weston Underwood (Derbyshire) incorporate the latest computerised batching, distribution, casting, curing and handling systems and are operated by skilled and experienced workforces to ensure consistency of quality. Their geographical spread gives us an unrivalled ability to serve the construction industry throughout the UK and Ireland.

By applying the DFMA principles, FP McCann's design engineers are able to evaluate individual precast concrete products part by part, in addition to documenting the assembly process step by step. This allows them to generate the cost, part count and assembly time to provide a benchmark to measure its success and identify the parts and process improvement opportunities. In turn, this has allowed FP McCann to design and manufacture more cost-effective and efficient high-quality precast concrete products with less wastage and greater on-site recycling. As a result, increased productivity, combined with a reduction in production time and costs, allows FP McCann to be more competitive within the marketplace.

OUR COMPANY



INTRODUCTION

FP McCann offers a specialist range of precast reinforced concrete cable troughs and service trench systems, used to house and protect most types of services, including power and communication cables and pipes for gas, water and chemicals. Our ground level duct and trough systems provide protection against accidental or malicious damage and offers easy access for maintenance and repair.

Three types of flush fitting lids are supplied in either reinforced precast concrete, GRP composite or steel tray. All lids are rated in accordance with the loading groups specified in BS EN 124.

FP McCann is an Achilles Utility Vendor Database (UVDB) approved supplier, Supplier No 061598, and have opted for a Verify Category B2 audit.

A site visit can be arranged for technical and procurement personnel. Please contact our sales team for further details.

BENEFITS / APPLICATIONS

PRODUCT BENEFITS

FP McCann's service duct and trough systems have a number of advantages:

- High pressure steam and water pipes.
- Applicable to power and telecom cables, as well as pipes for liquids and gases
- Chemically-resistant concrete
- Services buried at depth are unexposed to weather changes (i.e. freezing or overheating)
- High-strength load-bearing units
- Easy access for repairs, jointing or new service additions
- Whole life costs of precast concrete is lower than other forms of service trench construction
- Non-conductive to electricity
- Bespoke units can be made to specification

PRODUCT APPLICATIONS

- Substations
- Power stations
- Converter stations
- Wind farms
- Gas compressor plants
- Energy from waste plants
- Battery storage plants
- Biomass plants
- Waste treatment plants
- Oil, gas and fuel pipelines
- Hospita
- Commercial infrastructure
- Prisor

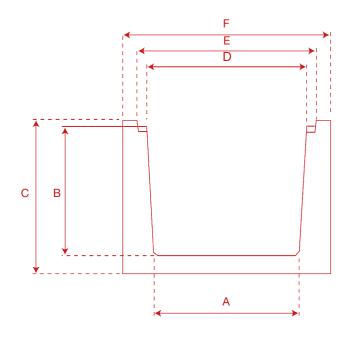


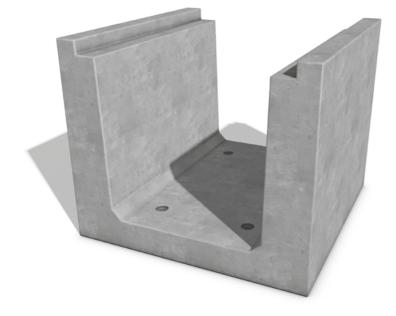


FP McCann's trough and service duct systems are designed and manufactured to comply with loading criteria as set out in accordance with BS EN 1433 (Troughs) and BS EN 124 (Lids). All standard troughs are one metre long. Two metre units are available on a made-to-order basis. All operations are conducted in accordance with FP McCann's quality management system, accredited to BS EN ISO 9001.









*STRAIGHT UNIT TROUGH DIMENSIONS

	Width x Depth	i arniin i	Rebate	s/w†	Supplied with		Troug	h Dime	Dimensions (mm)		
Coding	x Length (mm)	Class to BS EN 124	Depth mm	nominal (kg)	Lid reference	A	В	С	D	E	F
MT 350 300 ABCD SL	350 x 300 x 1000 Trough SL	A,B,C & D	50	450	ML 350 50 ODT A or ML 350 50 CDS A or ML 350 50 CDS B		350	525	385	510	6
MT 350 300 ABCD LL	350 x 300 x 1000 Trough LL	A,B,C & D	100	450	ML 350 100 RC AB or ML 350 100 ST CD	350	300	525	380	510	6
MT 450 450 ABCD SL	450 x 450 x 1000 Trough SL	A,B,C & D	50	596	ML450 50 ODT A or ML 450 50 CDS A or ML 450 50 CDS B	450	500	675	500	625	Ī
MT 450 450 ABCD LL	450 x 450 x 1000 Trough LL	A,B,C & D	100	596	ML 450 100 RC AB or ML 450 ST CD	450	450	675	495	625	-
MT 600 300 ABCD SL	600 x 300 x 1000 Trough SL	A,B,C & D	50	596	ML 600 50 ODT A or ML 600 50 CDS A or ML 600 50 CDS B	570	350	550	605	750	Ś
MT 600 300 ABCD LL	600 x 300 x 1000 Trough LL	A,B,C & D	100	596	ML 600 100 RC AB or ML 600 ST CD	570	300	550	600	750	į
MT 600 600 ABCD SL	600 x 600 x 1000 Trough SL	A,B,C & D	50	810	ML 600 50 ODT A or ML 600 50 CDS A or ML 600 50 CDS B	570	600	800	630	750	ĺ
MT 600 600 ABCD LL	600 x 600 x 1000 Trough LL	A,B,C & D	100	810	ML 600 100 RC AB or ML 600 ST CD	570	550	800	625	750	(
MT 750 500 ABCD SL	750 x 500 x 1000 Trough SL	A,B,C & D	50	923	ML 750 50 ODT A or ML 750 50 CDS A or ML 750 250 TH CD	750	550	750	805	955	1
MT 750 500 ABCD LL	750 x 500 x 1000 Trough LL	A,B,C & D	100	923	ML 750 100 RC AB or ML 750 100 ST CD		500	750	800	955	1
MT 750 750 ABCD SL	750 x 750 x 1000 Trough SL	A,B,C & D	50	1115	ML 750 50 ODT A or ML 750 50 CDS A or ML 750 250 TH CD		800	1000	830	955	1
MT 750 750 ABCD LL	750 x 750 x 1000 Trough LL	A,B,C & D	100	1115	ML 750 100 RC AB or ML 750 100 ST CD	750	750	1000	825	955	1
MT 1000 500 ABCD SL	1000 x 500 x 1000 Trough SL	A,B,C & D	50	1108	ML 1000 50 ODT A or ML 1000 50 CDS A or ML 1000 50 250 TH CD	1000	550	750	1055	1230	1-
MT 1000 500 ABCD LL	1000 x 500 x 1000 Trough LL	A,B,C & D	100	1108	ML 1000 100 RC AB or ML100 ST CD	1000	500	750	1050	1230	1-
MT 1000 750 ABCD SL	1000 x 750 x 1000 Trough SL	A,B,C & D	50	1331	ML 1000 50 ODT A or ML 1000 50 CDS A or ML 1000 50 250 TH CD	1000	800	1000	1080	1230	1
MT 1000 750 ABCD LL	1000 x 750 x 1000 Trough LL	A,B,C & D	100	1331	ML 1000 100 RC AB or ML100 ST CD	1000	750	1000	1075	1230	14
MT 1000 1000 ABCD SL	1000 x 1000 x 1000 Trough SL	A,B,C & D	50	1539	ML 1000 50 ODT A or ML 1000 50 CDS A or ML 1000 50 250 TH CD	1000	1050	1250	1105	1230	14
MT 1000 1000 ABCD LL	1000 x 1000 x 1000 Trough LL	A,B,C & D	100	1539	ML 1000 100 RC AB or ML100 ST CD	1000	1000	1250	1100	1230	1
MT 1250 750 ABCD SL	1250 x 750 x 1000 Trough SL	A,B,C & D	75	1484	ML 1250 250 TH CD	1250	775	1000	1330	1505	1
MT 1250 750 ABCD LL	1250 x 750 x 1000 Trough LL	A,B,C & D	150	1484	ML 1250 150 RC AB or ML 1250 ST CD	1250	700	1000	1320	1505	1
MT 1250 1000 ABCD SL	1250 x 1000 x 1000 Trough SL	A,B,C & D	75	1708	ML 1250 250 TH CD		1025	1250	1355	1505	1
MT 1250 1000 ABCD LL	1250 x 1000 x 1000 Trough LL	A,B,C & D	150	1708	ML 1250 150 RC AB or ML 1250 ST CD		950	1250	1345	1505	1
MT 1250 1250 ABCD SL	1250 x 1250 x 1000 Trough SL	A,B,C & D	75	1915	ML 1250 250 TH CD	1250	1275	1500	1380	1505	1
MT 1250 1250 ABCD LL	1250 x 1250 x 1000 Trough LL	A,B,C & D	150	1915	ML 1250 150 RC AB or ML 1250 ST CD	1250	1200	1500	1370	1505	1

^{*}All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances. † maximum self weight = nominal self + 5%, which should be used to size lifting equipment

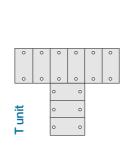


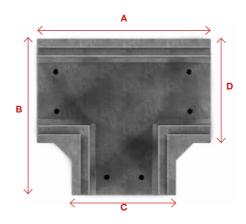
*CORNER UNIT TROUGH DIMENSIONS

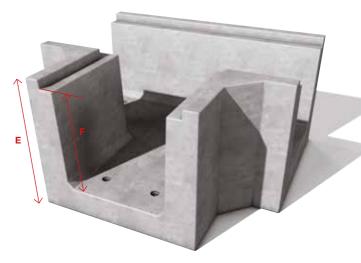
0. "	Width x Depth	s/w†				Trou	gh Dimens	ions (mm)	
Coding	x Length (mm)	nominal (kg)	Supplied with Lid reference	Α	В	С	D	Е	F
MT 350 300 1085 ABCD SL	350 x 300 x 1085 Trough SL Corner	690	ML 350 50 0M A or ML 350 50 CDS A or ML 350 50 CDS B	1085	1070	635	635	525	350
MT 350 300 1085 ABCD SL	350 x 300 x 1085 Trough LL Corner	670	ML 350 100 RC AB or ML 350 100 ST CD	1085	1070	635	635	525	300
MT 450 450 1198 ABCD SL	450 x 450 x 1198 Trough SL Corner	913	ML 450 50 A OM or ML 450 50 CDS A	1198	1073	750	750	675	500
MT 450 450 1198 ABCD LL	450 x 450 x 1198 Trough LL Corner	892	ML 450 100 RC AB or ML 450 50 CDS B or ML 450 100 ST CD	1198	1073	750	750	675	450
MT 600 300 1335 ABCD SL	600 x 300 x 1335 Trough SL Corner	970	ML 600 50 0M A or ML 600 50 CDS A or ML 600 50 CDS B	1335	1085	900	900	550	350
MT 600 300 1335 ABCD LL	600 x 300 x 1335 Trough LL Corner	945	ML 600 100 RC AB or ML 600 ST CD	1335	1085	900	900	550	300
MT 600 600 1335 ABCD SL	600 x 600 x 1335 Trough SL Corner	1245	ML 600 50 OM A or ML 600 50 CDS A or ML 600 50 CDS B	1335	1085	900	900	800	600
MT 600 600 1335 ABCD LL	600 x 600 x 1335 Trough LL Corner	1220	ML 600 100 RC AB or ML 600 ST CD	1335	1085	900	900	800	550
MT 750 500 1550 ABCD SL	750 x 500 x 1550 Trough SL Corner	1928	ML 750 50 0M A or ML 750 50 CDS A or ML 750 250 TH CD	1595	1550	1125	1125	750	550
MT 750 500 1550 ABCD LL	750 x 500 x 1550 Trough LL Corner	1928	ML 750 100 RC AB or ML 750 100 ST CD	1595	1550	1125	1125	750	500
MT 750 750 1550 ABCD SL	750 x 750 x 1550 Trough SL Corner	2376	ML 750 50 0M A or ML 750 50 CDS A or ML 750 250 TH CD	1595	1550	1125	1125	1000	800
MT 750 750 1550 ABCD LL	750 x 750 x 1550 Trough LL Corner	2376	ML 750 100 RC AB or ML 750 100 ST CD	1595	1550	1125	1125	1000	750
MT 1000 500 1220 ABCD SL	1000 x 500 x 1220 Trough SL Corner	2254	ML 1000 50 OM A or ML 1000 50 CDS A	1845	1608	1425	1425	750	550
MT 1000 500 1220 ABCD LL	1000 x 500 x 1220 Trough LL Corner	2213	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	1845	1608	1425	1425	750	500
MT 1000 750 1220 ABCD SL	1000 x 750 x 1220 Trough SL Corner	2707	ML 1000 50 OM A or ML 1000 50 CDS A	1845	1608	1425	1425	1000	800
MT 1000 750 1220 ABCD LL	1000 x 750 x 1220 Trough LL Corner	2675	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	1845	1608	1425	1425	1000	750
MT 1000 1000 1220 ABCD SL	1000 x 1000 x 1220 Trough SL Corner	3137	ML 1000 50 OM A or ML 1000 50 CDS A	1845	1608	1425	1425	1250	1050
MT 1000 1000 1220 ABCD LL	1000 x 1000 x 1220 Trough LL Corner	3850	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	1845	1608	1425	1425	1250	1000
MT 1250 750 2125 ABCD SL	1250 x 750 x 2125 Trough SL Corner	3800	ML 1250 150 RC AB or ML 1250 150 ST CD or ML 1250 75 OM A or ML 1250 75 CDS A	2125	2113	1700	1700	1000	775
MT 1250 750 2125 ABCD LL	1250 x 750 x 2125 Trough LL Corner	3852	ML 1250 150 RC AB or ML 1250 150 ST CD or ML 1250 75 OM A or ML 1250 75 CDS A	2125	2113	1700	1700	1000	700
MT 1250 1000 2125 ABCD LL	1250 x 1000 x 2125 Trough LL Corner	4250	ML 1250 150 RC AB or ML 1250 150 ST CD	2125	2113	1700	1700	1250	950
MT 1250 1250 2125 ABCD SL	1250 x 1250 x 2125 Trough SL Corner	4853	ML 1250 75 OM A or ML 1250 75 CDS A	2125	2113	1700	1700	1500	1275
MT 1250 1250 2125 ABCD LL	1250 x 1250 x 2125 Trough LL Corner	4797	ML 1250 150 RC AB or ML 1250 150 ST CD	2125	2113	1700	1700	1500	1200

^{*}All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances. Supporting angle iron is included. † maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.

TEE UNITS







*TEE UNIT TROUGH DIMENSIONS

	s/w†	0 11 1 11 11 1	Trough Dimensions (mm)					
x Length (mm)	Nominal (kg)	Supplied with Lid reference	A	В	С	D	E	F
350 x 300 x 1085 Trough SL Tee	843	ML 350 50 OM A or ML 350 50 CDS A or ML 350 50 CDS B	1500	1085	635	635	525	350
350 x 300 x 1085 Trough LL Tee	818	ML 350 100 RC AB or ML 350 100 ST CD	1500	1085	635	635	525	300
450 x 450 x 1500 Trough SL Tee	1060	ML 450 50 A OM or ML 450 50 CDS A	1500	1198	750	750	675	500
450 x 450 x 1500 Trough LL Tee	1060	ML 450 100 RC AB or ML 450 50 CDS B or ML 450 100 ST CD	1500	1198	750	750	675	450
600 x 300 x 1500 Trough SL Tee	1150	ML 600 50 OM A or ML 600 50 CDS A or ML 600 50 CDS B	1500	1335	900	900	550	350
600 x 300 x 1500 Trough LL Tee	1123	ML 600 100 RC AB or ML 600 ST CD	1500	1335	900	900	550	300
600 x 600 x 1500 Trough SL Tee	1448	ML 600 50 OM A or ML 600 50 CDS A or ML 600 50 CDS B	1500	1335	900	900	800	600
600 x 600 x 1500 Trough LL Tee	1423	ML 600 100 RC AB or ML 600 ST CD	1500	1335	900	900	800	550
750 x 500 x 2000 Trough SL Tee	2055	ML 750 50 0M A or ML 750 50 CDS A or ML 750 250 TH CD	2000	1550	1125	1125	1000	550
750 x 500 x 2000 Trough LL Tee	2114	ML 750 100 RC AB or ML 750 100 ST CD	2000	1550	1125	1125	1000	500
750 x 750 x 2000 Trough SL Tee	2449	ML 750 50 0M A or ML 750 50 CDS A or ML 750 250 TH CD	2000	1550	1125	1125	1000	800
750 x 750 x 2000 Trough LL Tee	2449	ML 750 100 RC AB or ML 750 100 ST CD	2000	1550	1125	1125	1000	750
1000 x 500 x 2000 Trough SL Tee	2391	ML 1000 50 OM A or ML 1000 50 CDS A	2000	1838	1425	1425	750	550
1000 x 500 x 2000 Trough LL Tee	2357	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	2000	1846	1425	1425	750	500
1000 x 750 x 2000 Trough SL Tee	2818	ML 1000 50 OM A or ML 1000 50 CDS A	2000	1838	1425	1425	1000	800
1000 x 750 x 2000 Trough LL Tee	2792	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	2000	1846	1425	1425	1000	750
1000 x 1000 x 2000L Trough SL Tee	3205	ML 1000 50 OM A or ML 1000 50 CDS A	2000	1838	1425	1425	1250	1050
1000 x 1000 x 2000 Trough LL Tee	3198	ML 1000 100 RC AB or ML 1000 100 CDS B or ML 1000 100 ST CD	2000	1846	1425	1425	1250	1000
1250 x 750 x 2500 Trough SL Tee	3816	ML 1250 150 RC AB or ML 1250 150 ST CD or ML 1250 75 OM A or ML 1250 75 CDS A	2500	2125	1700	1700	1000	775
1250 x 750 x 2500 Trough LL Tee	3892	ML 1250 150 RC AB or ML 1250 150 ST CD or ML 1250 75 OM A or ML 1250 75 CDS A	2500	2125	1700	1700	1000	700
1250 x 1250 x 2500 Trough SL Tee	4768	ML 1250 75 OM A or ML 1250 75 CDS A	2500	2125	1700	1700	1500	1275
1250 x 1250 x 2500 Trough LL Tee	4714	ML 1250 150 RC AB or ML 1250 150 ST CD	2500	2125	1700	1700	1500	1200
	350 x 300 x 1085 Trough SL Tee 350 x 300 x 1085 Trough LL Tee 450 x 450 x 1500 Trough SL Tee 450 x 450 x 1500 Trough SL Tee 450 x 300 x 1500 Trough LL Tee 600 x 300 x 1500 Trough SL Tee 600 x 600 x 1500 Trough SL Tee 600 x 600 x 1500 Trough SL Tee 600 x 600 x 1500 Trough SL Tee 750 x 500 x 2000 Trough SL Tee 750 x 500 x 2000 Trough SL Tee 750 x 750 x 2000 Trough SL Tee 1000 x 500 x 2000 Trough SL Tee 1000 x 500 x 2000 Trough SL Tee 1000 x 500 x 2000 Trough LL Tee 1000 x 500 x 2000 Trough LL Tee 1000 x 750 x 2000 Trough SL Tee 1000 x 1000 x 2000 Trough SL Tee 1000 x 1000 x 2000 Trough SL Tee 1250 x 750 x 2500 Trough SL Tee 1250 x 750 x 2500 Trough SL Tee 1250 x 1250 x 2500 Trough SL Tee	Section Sect	Section Sect	Section Sect	Section Sect	350 x 300 x 1085 1000 10	350 x 300 x 1005 Trough SL Tee	SSD x 500 x 1085 Trough L. Tree

^{*}All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances. Supporting angle iron is included. † maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.

ANGLED UNITS

Units to form changes in direction are available in some sizes, may be cast in-situ or formed from standard units on site. However, care should be taken that such features are suitable for the anticipated trafficking. Bespoke designs to suit particular conditions can be provided. Corner, tee and specific angled units are usually available exstock. Please contact our sales office to discuss availability.

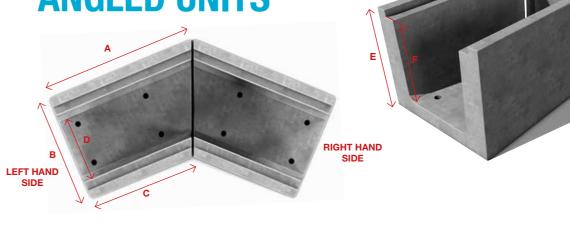












*ANGLED UNIT TROUGH DIMENSIONS

Ondina	Width x Depth	s/w* nominal (kg) Supplied with Lid reference		Trough Dimensions (mm)					
Coding	x Length (mm)			Α	В	С	D	E	F
MT 350 300 ABCD 22.5 LH/RH SL	350 x 300 x 1000 TROUGH 22.5 DEG SL	391	ML 350 50 OM A or ML 350 50 CDS A or ML 350 50 CDS B	1000	635	737	350	525	350
MT 350 300 ABCD 22.5 LH/RH LL	350 x 300 x 1000 TROUGH 22.5 DEG LL	391	ML 350 100 RC AB or ML 350 100 ST CD	1000	635	737	350	525	300
MT 450 450 ABCD 22.5 LH/RH SL	450 x 450 x 1000 TROUGH 22.5 DEG SL	503	ML 450 50 OM A or ML 450 50 CDS A or ML 450 50 CDS B	1000	750	690	450	675	500
MT 450 450 ABCD 22.5 LH/RH LL	450 x 450 x 1000 TROUGH 22.5 DEG SL	503	ML 450 100 RC AB or ML 450 100 ST CD	1000	750	690	450	675	450
MT 600 300 ABCD 22.5 LH/RH SL	600 x 300 x 1000 TROUGH 22.5 DEG SL	515	ML 600 50 OM A or ML 600 50 CDS A or ML 600 50 CDS B	1000	900	628	570	550	350
MT 600 300 ABCD 22.5 LH/RH LL	600 x 300 x 1000 TROUGH 22.5 DEG LL	515	ML 600 100 RC AB or ML 600 100 ST CD	1000	900	628	570	550	300
MT 600 600 ABCD 22.5 LH/RH SL	600 x 600 x 1000 TROUGH 22.5 DEG SL	659	ML 600 50 OM A or ML 600 50 CDS A or ML 600 50 CDS B	1000	900	628	570	800	600
MT 600 600 ABCD 22.5 LH/RH LL	600 x 600 x 1000 TROUGH 22.5 DEG LL	659	ML 600 100 RC AB or ML 600 100 ST CD	1000	900	628	570	800	550
MT 750 500 ABCD 22.5 LH/RH SL	750 x 500 x 1000 TROUGH 22.5 DEG SL	708	ML 750 50 OM A or ML 750 50 CDS A	1000	1125	534	750	750	550
MT 750 500 ABCD 22.5 LH/RH LL	750 x 500 x 100L TROUGH 22.5 DEG LL	723	ML 750 100 RC AB or ML 750 100 ST CD	1000	1125	534	750	750	500
MT 750 750 ABCD 22.5 LH/RH SL	750 x 500 x 100L TROUGH 22.5 DEG SL	804	ML 50 50 OM A or ML 750 50 CDS	1000	1125	534	750	1000	800
MT 750 750 ABCD 22.5 LH/RH LL	750 x 500 x 100L TROUGH 22.5 DEG LL	840	ML 750 100 RC AB or ML 750 100 ST CD	1000	1125	534	750	1000	750
MT 1000 500 ABCD 22.5 LH/RH SL	1000 x 500 x 1590 TROUGH 22.5 DEG LL	1434	ML 1000 50 OM A or ML 1000 CDS A	1590	1425	1000	1000	750	550
MT 1000 500 ABCD 22.5 LH/RH LL	1000 x 500 x 1590 TROUGH 22.5 DEG LL	1730	ML 1000 100 RC AB or ML 1000 ST CD	1590	1425	1000	1000	750	500
MT 1000 750 ABCD 22.5 LH/RH SL	1000 x 750 x 1590 TROUGH 22.5 DEG SL	1724	ML 1000 50 OM A or ML 1000 CDS A	1590	1425	1000	1000	1000	800
MT 1000 750 ABCD 22.5 LH/RH LL	1000 x 750 x 1590 TROUGH 22.5 DEG LL	1701	ML 1000 100 RC AB or -ML 1000 ST CD	1590	1425	1000	1000	1000	750
MT 1000 1000 ABCD 22.5 LH/RH LL	1000 x 750 x 1590 TROUGH 22.5 DEG LL	1975	ML 1000 100 RC AB or ML 1000 100 ST CD	1590	1425	1000	1000	1250	1000
MT 1250 750 ABCD 22.5 LH/RH LL	1250 x 750 x 1705 TROUGH 22.5 DEG LL	1953	ML 1250 150 RC AB or ML 1250 150 ST CD	1705	1700	1000	1250	1000	700
MT 1250 1000 ABCD 22.5 LH/RH LL	1250 x 1000 x 1705 TROUGH 22.5 DEG LL	2297	ML 1250 150 RC AB or ML 1250 150 ST CD	1705	1700	1000	1250	1250	950
MT 1250 1000 ABCD 22.5 LH/RH LL	1250 x 1000 x 1705 TROUGH 22.5 DEG LL	2553	ML 1250 150 RC AB or ML 1250 150 ST CD	1705	1700	1000	1250	1500	1200
MT 1250 1250 ABCD 22.5 LH/RH LL	1250 x 1000 x 1705 TROUGH 22.5 DEG LL	2600	ML 1250 150 RC AB or ML 1250 150 ST CD	1705	1700	1000	1250	1500	1200

*All dimensions contained within this brochure are nominal and do not take into account manufacturing tolerances.
† maximum self weight = nominal self + 5%, which should be used to size lifting equipment. Additional sizes are available upon request.

Other angled units, including 11.25°, 15° and 30° are available on request

LIFTING METHOD



1. Position trough on a level flat area. Fix in lifting loops to each of the four lifting points. Check loops are secure.



2. Attach lifting chains to all four lifting loops.



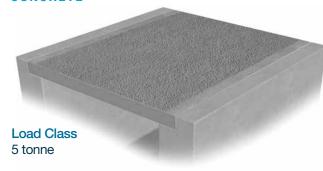
3. Ensure lifting chains are symmetrical then begin lift.



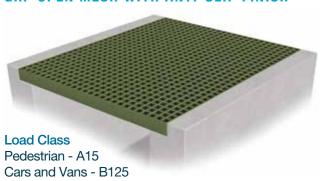
4. Lift slowly and with care, then place trough in position. Ensure trough is in line and level. Then remove lift chains and unscrew lifting loops.

TROUGH LIDS

CONCRETE



GRP OPEN MESH WITH ANTI-SLIP FINISH



GRP SOLID TOP WITH ANTI-SLIP FINISH

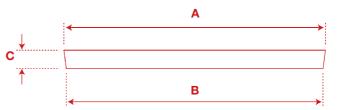


HD STEEL CONCRETE COMPOSITE



HGV and HD Vehicles at road crossings 11.5 Tonne wheel load

NB: All concrete and steel composite covers have cast-in lifting sockets. GRP covers can have lifting slots and locking devices, if required.



Drawing representative of concrete and steel infill concrete lids only, GRP lids are supplied with straight edge profiles.

*TROUGH LID DIMENSIONS

	Lid Length			Loading	s/w [△]	Lid Di	Lid Dimensions (n	
Lid Coding	(mm)	Reference	Description	group Class to BS EN 124	nominal (kg)	Α	В	С
ML 350 50 0M A	1000	350 GRP Open Mesh Lid	GRP Open Mesh Lid Lid to fit 350 wide trough with 50 deep rebate 1.5T SWL	A & B	11.7	494	494	50
ML 350 50 CDS A	1000	350 GRP Solid Top Lid	GRP Solid Top Lid to fit 350 wide trough with 50 deep rebate 1.5T SWL - 5T SWL	A & B	14.6	494	494	50
ML 350 50 CDS B	500/1000	350 GRP Solid Top Lid	GRP Solid Top Lid to fit 350 wide trough with 50 deep rebate 5T SWL - 11.5T SWL	B, C, D	8.6	494	494	50/100
ML 350 100 RC AB	500	350 5T Concrete Lid	Reinforced concrete recessed Lid to fit 350 wide trough with 100 deep rebate 5T SWL	A & B	61.5	504	484	100
ML 350 100 ST CD	500	350 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 350 wide trough with 100 deep rebate 11.5T SWL	C & D	61.5	504	484	100
ML 450 50 OM A	1000	450 GRP Open Mesh Lid	GRP Open Mesh Lid to fit 450 wide trough with 50 deep rebate 1.5T SWL	A & B	14.4	609	609	50
ML 450 50 CDS A	1000	450 GRP Solid Top Lid	GRP Solid Top Lid to fit 450 wide trough with 50 deep rebate 5T SWL	A & B	18.0	609	609	50
ML 450 50 CDS B	500/1000	450 GRP Solid Top Lid	GRP Solid Top Lid to fit 450 wide trough with 50 deep rebate 5T SWL - 11.5T SWL	B, C, D	10.6	609	609	50/100
ML 450 100 RC AB	500	450 5T Concrete Lid	Reinforced concrete recessed Lid to fit 450 wide trough with 100 deep rebate 5T SWL	A & B	76.0	619	599	100
ML 450 100 ST CD	500	450 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 450 wide trough with 100 deep rebate 11.5T SWL	C & D	76.0	619	599	100
ML 600 50 OM A	1000	600 GRP Open Mesh Lid	GRP Open Mesh Lid to fit 600 wide trough with 50 deep rebate 1.5T SWL	A & B	17.4	734	734	50
ML 600 50 CDS A	500/1000	600 GRP Solid Top Lid	GRP Solid Top Lid to fit 600 wide trough with 50 deep rebate 5T SWL	A & B	21.6	734	734	50
ML 600 50 CDS B	500/1000	600 GRP Solid Top Lid	GRP Solid Top Lid to fit 600 wide trough with 50 deep rebate 5T SWL - 11.5T SWL	B, C, D	12.8	734	734	50/100
ML 600 100 RC AB	500	600 5T Concrete Lid	Reinforced concrete recessed Lid to fit 600 wide trough with 100 deep rebate 5T SWL	A & B	91.4	744	724	100
ML 600 100 ST CD	500	600 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 600 wide trough with 100 deep rebate 11.5T SWL	C & D	91.4	744	724	100
ML 750 50 0M A	1000	750 GRP Open Mesh Lid	GRP Open Mesh Lid Lid to fit 750 wide trough with 50 deep rebate 1.5T SWL	A & B	22.2	929	929	50
ML 750 50 CDS A	500/1000	750 GRP Solid Top Lid	GRP Solid Top Lid to fit 750 wide trough with 50 deep rebate 1.5T SWL - 6.5T SWL	A, B, C	27.6	929	929	50/100
ML 750 100 RC AB	500	750 5T Concrete Lid	Reinforced concrete recessed Lid to fit 750 wide trough with 100 deep rebate 5T SWL	A & B	116.9	949	929	100
ML 750 100 ST CD	500	750 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 750 wide trough with 100 deep rebate 11.5T SWL	C & D	116.9	949	929	100
ML 750 225 TH CD	500	750 11.5T RC Top Hat Lid	Reinforced concrete top hat Lid to fit 750 wide trough 11.5T SWL	C & D	307.0	1125	905	250
ML 1000 50 OM A	1000	1000 GRP Open Mesh Lid	GRP Open Mesh Lid to fit 1000 wide trough with 50 deep rebate 1.5T SWL	A & B	28.6	1204	1204	50
ML 1000 50 CDS A	500/1000	1000 GRP Solid Top Lid	GRP Solid Top Lid to fit 1000 wide trough with 50 deep rebate 1.5T SWL - 6.5T SWL	A, B, C	35.7	1204	1204	50/100
ML 1000 100 RC AB	500	1000 5T Concrete Lid	Reinforced concrete recessed Lid to fit 1000 wide trough with 100 deep rebate 5T SWL	A & B	151.1	1224	1204	100
ML 1000 100 ST CD	500	1000 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 1000 wide trough with 100 deep rebate 11.5T SWL	C & D	151.1	1224	1204	100
ML 1000 225 TH CD	500	1000 11.5T RC Top Hat Lid	Reinforced concrete top hat Lid to fit 1000 wide trough 11.5T SWL	C & D	391.0	1425	1205	225
ML 1250 150 RC AB	500	1250 5T Concrete Lid	Reinforced concrete recessed Lid to fit 1250 wide trough with 150 deep rebate 5T SWL	A & B	263.0	1499	1469	150
ML 1250 150 ST CD	500	1250 11.5T Recessed Steel Tray Lid	Composite (steel tray + concrete infill) Lid to fit 1250 wide trough with 150 deep rebate 11.5T SWL	C & D	279.0	1499	1479	150
ML 1250 225 TH CD	500	1250 11.5T RC Top Hat Lid	Reinforced concrete top hat Lid to fit 1250 wide trough 11.5T SWL	C & D	468.0	1700	1480	225
								-

^{*}All dimensions are nominal dimensions and do not take into account manufacturing tolerances.

 $^{^{\}triangle}$ maximum self weight = nominal self + 5%, which should be used to size lifting equipment Note: Load class dictates lid thickness. Please contact our sales office for further details.

INSTALLATION

INSTALLATION OPTIONS

There are two ways in which troughs may be installed, as shown in the diagrams opposite:

NOTES

- The details shown are for guidance only and should be suitably reviewed with regard to actual ground conditions and applied loading.
- 2. A Class 1 mortar bed (min 25mm thickness) may be provided between trough and concrete / stone bedding to aid alignment.
- Where troughs are laid to provide a sealed unit, or where the haunching serves to retain water, the formation of a sump may be necessary. (FP McCann can advise further).
- Where units are to be sealed, a proprietory sealant may be used e.g. polyurethane sealant.
- 5. Transitions in horizontal and vertical alignment can be achieved by tee and angled units. Various sizes and



SURFACE LAID



- configurations are available. When using cast in-situ infill sections, FP McCann recommends getting the structural integrity of the units checked, especially in trafficked areas.
- 6. In trafficked locations, to minimise the risk of movement, lids should be seated on a minimum thickness of 2mm rubber bearing strip to reduce noise and vibration effects.
- 7. Parallel lengths of troughs should not be installed immediately adjacent to each other. However, subject to actual loading conditions, this may be acceptable. For advice, contact FP McCann's technical department.
- 8. Where lids are subject to frequent slewing by commercial vehicles, the lids may need to be fixed in position with an epoxy mortar.



FLUSH WITH THE SURFACE

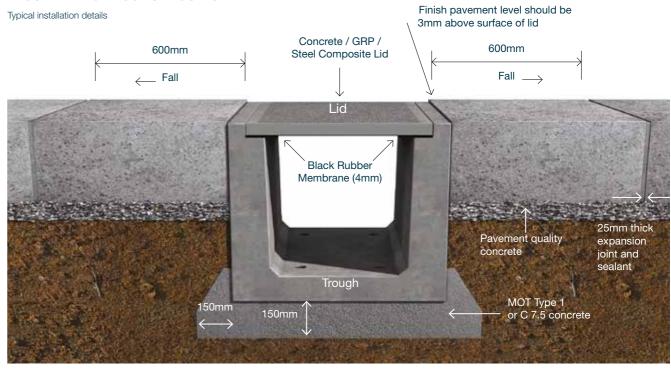


INSTALLATION PROCEDURE

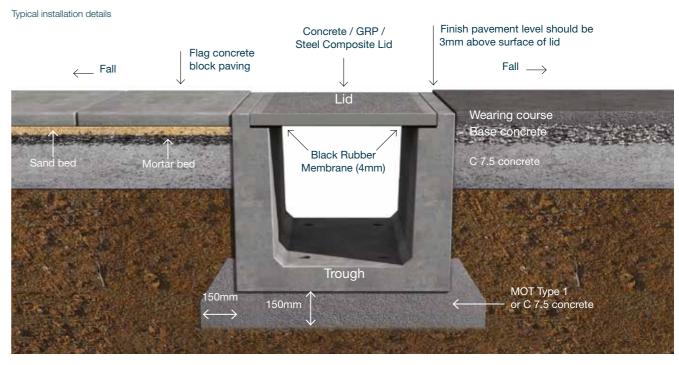
- 1. Prepare formation to required level and lay granular/concrete base.
- 2. Position trough to required line and level.
- 3. Position adjacent trough and, where required, apply polyurethane sealant between units.
- 4. Place stone / concrete haunching to sides of trough as installation proceeds.
- 5. Continue installation procedure to form required length of ducting.
- Carefully place suitable backfill material around trough to re-form required finished levels.
- 7. Install adjacent construction.
- 8. Install services into ducting.



FLUSH IN RIGID CONSTRUCTION



FLUSH IN FLEXIBLE CONSTRUCTION



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BESPOKE TROUGHS

TRANSITION T



TRANSITION STRAIGHT



Bespoke troughs are available in two metre lengths for all sizes from 350mmx300mm to 1250mmx1250mm. Further information is available on request.

CRUCIFORM





BESPOKE FEATURES



CAST-IN FIXING SOCKETSFor fixing brackets in the sidewall.



SIDEWALL HOLES & BASE HOLES Side entry points for pipes, ducts and cables



UNI-STRUT CHANNELSFor fixing brackets at different levels.

PRECAST SWITCH GEAR BASES

These are made to order, complete with cast-in sockets, fixings and protrusions to the client's design or by FP McCann's bespoke design [subject to commercial and design parameters]. Please contact our sales office for more details.



FIRE WALLS

FP McCann manufactures two types of prestressed panels that are ideal for fire walling. With the choice of vertical cantilever panels or horizontal panels and columns, fire walling is designed to contain fire from 30 minutes up to 4 hours, depending on the thickness of the panel.

Rapid installation is possible due to the tongue and grooved joints. Standard column sections vary dependant on overall wall height and are made to order to suit customer requirements. Fire walls and columns can be manufactured to the clients' own design or to FP McCann's design specification.

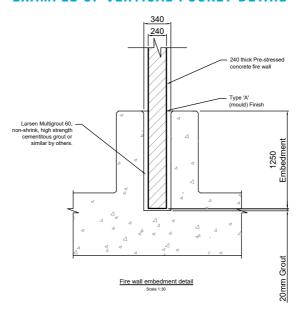
Panel Thickness (mm)	Fire Rating (hrs)
80	0.5
120	1.5
160	3.0
200	4.0
240	4.0

KEY FEATURES AND BENEFITS

Vertical Cantilever Panels

- Overall wall heights of up to 7.5 metres effective height can be achieved
- The panels are slotted and grouted into a preformed pocket in the bund/ foundation

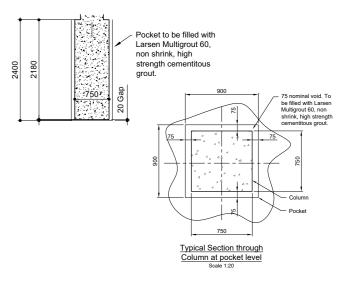
EXAMPLE OF VERTICAL POCKET DETAIL



Horizontal Panels

- Overall wall heights of up to 10 metres effective height can be achieved
- Panels slot between precast columns and are embedded into the ground via preformed pockets, which are then grouted into position using highstrength grout
- It negates the need for a full length trench to be excavated and poured with concrete, instead favouring easily formable localised pockets at specific centres

EXAMPLE OF HORIZONTAL POCKET DETAIL



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COMMS BOXES

Unique cable and junction protection boxes are made from reinforced concrete and can be installed in minutes. The one piece construction design provides easy access for cable jointing and maintenance.

Communications boxes are mainly used in infrastructure works to include airports, railway projects, roads and housing developments. Cable pit chambers and other units for street lighting are also available in different sizes.

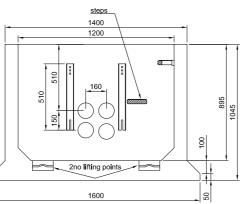
FEATURES

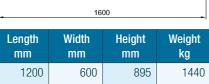
- Reinforced concrete walls
- Integrated reinforced base*
- Base incorporating sump*
- Splayed base to aid stability*
- Preformed cable entry points
- · Easily manoeuvred with lifting
- Suitable for up to 30 units HB loading

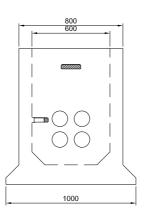
- Ironmongery fitted^
- Plastic encapsulated steps
- Complementary lids are available from good Builders Merchants
- Bespoke duct arrangements available on request

COMMS C2



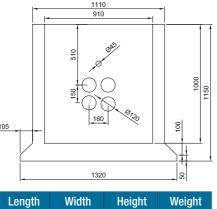




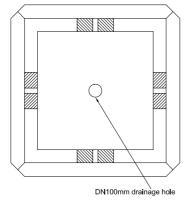


COMMS DP

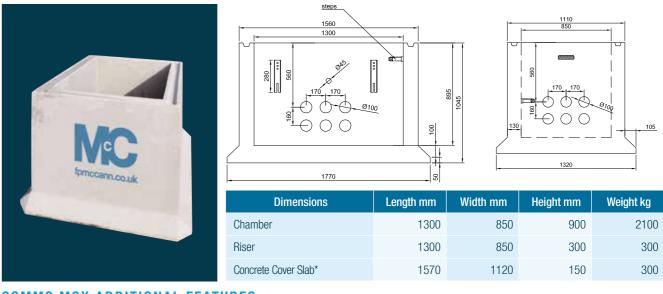




Length	Width	Height	Weight
mm	mm	mm	kg
910	890	1000	



COMMS MCX

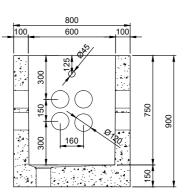


COMMS MCX ADDITIONAL FEATURES

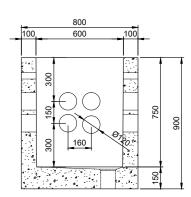
- Highway construction details MCX compliant
- *Complementary reinforced concrete riser and cover slab are available from FP McCann

COMMS 600



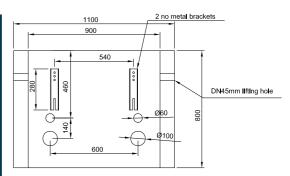


Length mm	Width mm	Height mm	Weight kg
600	600	750	806

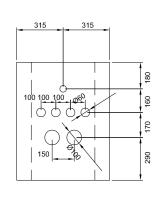


COMMS J4





Length	Width	Height	Weight
mm	mm	mm	kg
910	440	800	590



^{*} Comms J4 has no base, sump or steps

[^] Comms DP has no ironmongery or steps fitted

MULTI-PURPOSE COMMUNICATION CHAMBER

FP McCann's precast concrete MLSC multi-purpose communication chambers can be adapted to suit any site requirements. Their flexible design means that they can be factory fitted with duct couplers, step irons, sump units and rebated walls, as required. Multi-purpose communication chambers can be supplied to suit any loading requirements including up to F900+ for airports and similar heavy duty applications.

PRODUCT FEATURES

- Available in a large range of sizes from 1250mm x 1250mm to 3000mm x 3000mm
- Available in heights up to 2400mm
- Riser units and cover slabs available
- Suitable for a variety of applications especially for the energy and water industries
- Heavy duty loading
- Easy access for maintenance

CAST-IN ITEMS

If required, the chambers can be delivered with pre-fitted;

Steps

- Recesses for beam
- Ladders

- Rebates for lids
- Duct Couplers
- Earthing Rods
- Sumps

Starter Bars



STANDARD SIZES

Inte	ernal	Coverslab	Wall Thickness	Base Thickness	Max	Weight at Max
Length (mm)	Width (mm)	Thickness (mm)	(mm)	(mm)	Height (mm)	Height (tonnes)
1250	1250	250	200	200	2400	9.0
1500	1500	250	200	200	2400	10.7
2000	1500	250	200	200	2400	12.5
2000	2000	250	200	200	2400	14.4
2500	2000	300	200	200	2400	16.3
2500	2500	300	200	200	2400	18.4
3000	2500	300	200	200	2400	20.4
3000	3000	300	200	200	2400	22.6

Units can be poured in any increment of 100mm from 400mm up to a maximum single unit height of 2400mm internal.

A two or more piece solution is also available if the depth required is greater than 2400mm - or if there are on site weight restrictions which need to be met.



Precast bespoke pit solutions now provide a real alternative to in-situ built pits.

Most airfield projects require the construction of large concrete pits for the main electrical and communication installations.

Traditionally, due to their size, these have been constructed in-situ. A modular concrete design has been developed which is factory produced and then assembled on site.

This whole approach has produced a solution which has made a significant and sustainable contribution towards reducing the impact of construction works in the airport environment, including time spent on-site, runway possessions and noise.

The end product is of a consistently high quality and has the added value of being easier to maintain and alter in the future.

WHY CHOOSE AN OFF-SITE SOLUTION?

Traditionally, pits have been created using in-situ construction methods. This process has proved to be labour intensive, time consuming, noisy and wasteful, whilst potentially posing a number of safety hazards, particularly on projects associated with deep excavations. Off-site construction reduces a number of safety hazards and also reduces the man hours required on-site by 95 per cent from 300 down to 15 hours per pit.

This reduction impacts upon the amount of traffic deliveries to site, therefore reducing site storage and site waste. It also eliminates possible delays during construction, thereby improving programme reliability.

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FLEXIBLE DESIGN

The design of the pits incorporates specially formed plastic sleeves which contain built-in stoppers.

The collars are placed in a cluster arrangement avoiding the need to know exactly where future cable runs are. Once a cable location is known, the built-in stopper within the plastic sleeve can be easily removed.

The added benefit of the built-in stopper is that during installation and throughout its life, water ingress through the ducts is prevented. There are many other benefits, some of which are listed below:

PRODUCT BENEFITS

- 95 per cent reduction in site man-hours for pit construction
- 85 per cent reduction in on-site construction
- 55 per cent reduction in lorry movements for deliveries
- Virtual elimination of on-site waste
- Elimination of need for confined space working
- Significant reduction in site noise
- Provision of a consistently high quality product
- Product designed for future alterations

Where large repetition exists, FP McCann is able to develop a pit solution to suit the specific needs of the client. Typically, these could provide high quality infrastructure for utility companies where large numbers of standard pits are required and where site conditions and constraints require a quick build time.











PRECAST AIRPORT PIT TYPES

All moulds are of steel fabrication and produce the following pit types;

- 2.3mtrs square internal
- **PP5** As above 1.5mtrs square internal
- **PE1** made up of one box unit and a precast cover that has a F900 single access cover encast - 800mm x 725mm x 1.2mtrs deep internal
- PE2 A as above but has a precast cover that has a F900 double access cover encast – 1500mm x 700mm x 1100mm deep internal
- **PE2 B** as above but has a precast cover that has a F900 double access cover encast - 1500mm x 700mm x 1350mm deep internal

- PP3 made up of varying thickness sections to give the required pit depth PE2 C as above but has a precast cover that has a F900 double access cover encast – 1500mm x 700mm x 1500mm deep internal
 - **PE3 A** as above but has a precast cover that has a F900 triple access cover encast – 2300mm x 700mm x 1100mm deep internal
 - **PE3 B** as above but has a precast cover that has a F900 triple access cover encast - 2300mm x 700mm x 1350mm deep internal
 - PE3 C as above but has a precast cover that has a F900 triple access cover encast - 2300mm x 700mm x 1500mm deep internal

PIT TYPE	UNIT	DESCRIPTION	UNIT WEIGHT (TONNES)	EXT. LENGTH (MM)	EXT. WIDTH (MM)	EXT. DEPTH (MM)	INT DIMS (M)
PP3	А	Base Unit	5.84	3500	3500	350	2.3 x 2.3
PP3	В	Jacking Unit	5.15	2900	2900	600	2.3 x 2.3
PP3	С	Duct Unit	4.64	2900	2900	850	2.3 x 2.3
PP3	Х	Duct Unit	5.98	2900	2900	1100	2.3 x 2.3
PP3	D	Spacer Unit	6.32	2900	2900	800	2.3 x 2.3
PP3	Е	Spacer Unit	3.93	2900	2900	500	2.3 x 2.3
PP3	F	Spacer Unit	3.14	2900	2900	400	2.3 x 2.3
PP3	G	Spacer Unit	2.34	2900	2900	300	2.3 x 2.3
PP3	Н	Cover '2' part lid	7.94	2940	2940	400	2.3 x 2.3
PP3	НЗ	Cover '3' part lid	8.97	2940	2940	500	2.3 x 2.3
PP3	H3 '0'	Cover '3' part lid	8.97	2940	2940	500	2.3 x 2.3
PE2	А	Base Unit	5.31	2100	1300	1100	1.5 x 0.7
PE2	В	Base Unit	6.41	2100	1300	1350	1.5 x 0.7
PE2	С	Base Unit	7.07	2100	1300	1500	1.5 x 0.7
PE2	CVR	Cover '2' part lid	1.80	2130	1330	300	1.5 x 0.7
PP5	А	Base Unit	3.87	2700	2700	350	1.5 x 1.5
PP5	В	Jacking Unit	3.73	2100	2100	600	1.5 x 1.5
PP5	С	Duct Unit	3.64	2100	2100	850	1.5 x 1.5
PP5	Х	Duct Unit	4.67	2100	2100	1100	1.5 x 1.5
PP5	D	Spacer Unit	4.23	2100	2100	800	1.5 x 1.5
PP5	Е	Spacer Unit	2.65	2100	2100	500	1.5 x 1.5
PP5	F	Spacer Unit	2.12	2100	2100	400	1.5 x 1.5
PP5	G	Spacer Unit	1.59	2100	2100	300	1.5 x 1.5
PP5	Н	Cover '2' part lid	3.84	2140	2140	400	1.5 x 1.5
PE1	А	Base Unit	3.87	1400	1325	1150	0.8 x 0.725
PE1	CVR	Cover '1' part lid	1.37	1430	1355	300	0.8 x 0.725
PE3	А	Base Unit	6.58	2900	1300	1000	2.3 x 0.7
PE3	В	Base Unit	7.97	2900	1300	1250	2.3 x 0.7
PE3	С	Base Unit	8.81	2900	1300	1400	2.3 x 0.7
PE3	CVR	Cover '3' part lid	2.35	2940	1340	400	2.3 x 0.7













LITTLEPORT OFFICE:

Wisbech Road Littleport, Ely Cambridgeshire CB6 1RA **T** 01353 861416 sales@fpmccann.co.uk

AGRICULTURE

Lydney 01594 847500 Grantham 01476 562277

ARCHITECTURAL PRECAST

Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416

BOX CULVERTS

Weston Underwood 01335 361269

BUILDING PRODUCTS

Cadeby 01455 290780

DOCK LEVELLER PITS

Weston Underwood 01335 361269

DRAINAGE

Ellistown 01530 240000 (England/Wales) Magherafelt 028 7954 9026 (Scotland)

FENCING

Cadeby 01455 290780

FILTER BED SYSTEMS

Littleport 01353 861416

FLOORING

POWER & INFRASTRUCTURE

Littleport 01353 861416

RAIL

Littleport 01353 861416

SPECIALIST PRECAST

Littleport 01353 861416

STRUCTURAL PRECAST

Byley 01606 843500 Grantham 01476 562277 Littleport 01353 861416

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WALLING

Grantham 01476 562277 Lydney 01594 847500 Uddingston 01698 803 300 (Scotland)

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